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# FISHERY MARKET NEWS

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# FISHERY MARKET NEWS

R. H. Fiedler, Editor  
F. F. Johnson, Associate Editor



TECHNOLOGY - - J. M. Lemon  
STATISTICS - - - E. A. Power

MARKET NEWS - - A. W. Anderson  
MARKETING - - - - Ralph Russell

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# FISHERY MARKET NEWS

A REVIEW OF CONDITIONS AND TRENDS OF THE COMMERCIAL FISHERIES

December 1940

Washington, D. C.

Vol. 2, No. 12

## SUMMARY

### Special Article

Economics of the Carp Industry.--The carp, which is widely distributed throughout the United States, is, with respect to the volume of the catch, the second most important species taken commercially from our inland waters. The principal market for carp is in our large eastern cities where a considerable portion of the catch is sold alive to the consumer. The carp is of high food value and, when properly prepared and cooked, has an excellent flavor.

### Fresh Fish

October vessel landings of fishery products at the ports of Boston, Gloucester, and Portland totaled 34,836,000 pounds, valued at \$1,051,000--an increase of 9 percent in volume and 14 percent in value as compared with the same month last year. Total vessel deliveries at these ports during the first ten months of the current year amounted to 310,089,000 pounds--5 percent less than those for the same period in 1939.

A total of 5,992,000 pounds of fishery products was received at the Chicago Wholesale Fish Market during October--23 percent above the volume entering the market the previous month. The cumulative total of 47,681,000 pounds of fresh and salt-water fish and shellfish received at the Chicago Market during the first ten months of 1940 was likewise 23 percent greater than the total for the same period in 1939.

Because of the high vitamin content of their livers, the soupfin and dogfish sharks support important fisheries on the Pacific Coast. The livers from the soupfin shark sell for from 80 cents to \$1.00 per pound, while those of the dogfish shark, which have a lower vitamin content, bring 6 cents per pound.

### Frozen Fish

Stocks of frozen fishery products in domestic cold-storage plants on November 15 amounted to 97,627,000 pounds, an all-time high. Holdings on that date were 15 percent greater than those on the same date in 1939. Holdings of all leading items except rosefish fillets were greater than a year ago. During the month ending November 15 domestic firms froze 22,716,000 pounds of fishery products--23 percent more than were frozen during the same period in 1939.

Cold-storage plants in Boston, New York City, and Chicago reported increased holdings of frozen fishery products at the end of November, as compared with the holdings a month earlier. Boston freezers reported 18,369,000 pounds of frozen fish in storage at the end of November; New York, 10,488,000 pounds; and Chicago, 5,072,000 pounds.

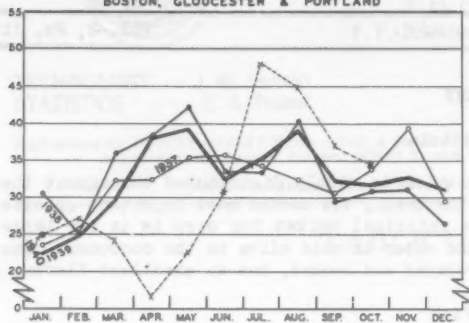
### Foreign Trade

Canned sardines, the leading item of edible fishery products exported from the United States during October, accounted for 45 percent of the total exports of 10,985,000 pounds for the month. Imports of fishery products during October amounted to 28,239,000 pounds--21 percent under the volume imported during the same month a year ago. While exports of fishery products during the first ten months of the current year were 21 percent greater than those in the same period last year, imports declined 15 percent.

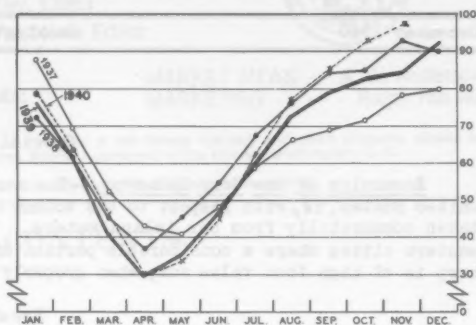
# TRENDS OF FISHERY TRADE

In millions of pounds

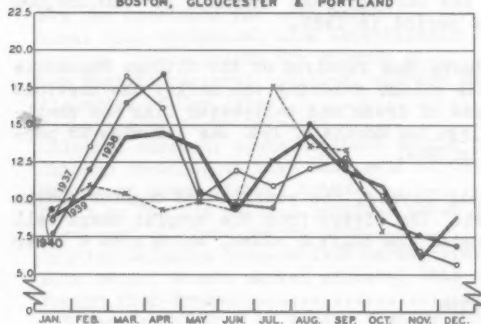
VESSEL LANDINGS, ALL FRESH FISH  
BOSTON, GLOUCESTER & PORTLAND



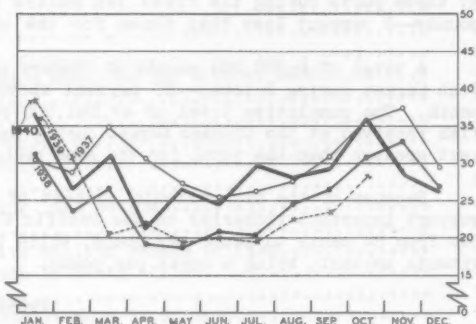
DOMESTIC COLD-STORAGE HOLDINGS OF FROZEN FISH



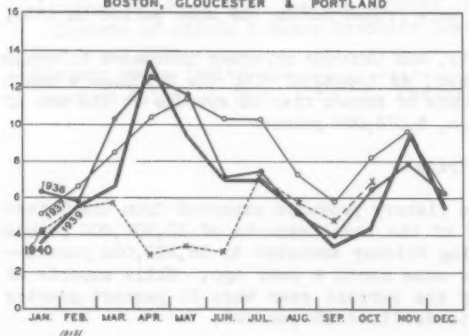
VESSEL LANDINGS, FRESH HADDOCK  
BOSTON, GLOUCESTER & PORTLAND



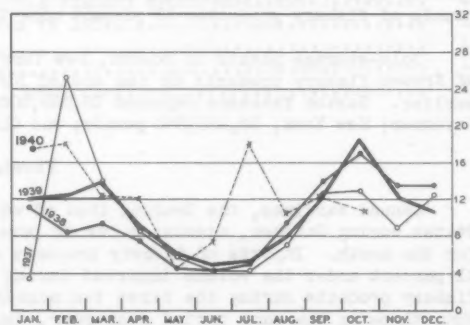
IMPORTS OF EDIBLE FISHERY COMMODITIES



VESSEL LANDINGS, FRESH COD  
BOSTON, GLOUCESTER & PORTLAND



EXPORTS OF EDIBLE FISHERY COMMODITIES



## ECONOMICS OF THE CARP INDUSTRY

By Edna N. Sater  
Fish and Wildlife Service

Washington, D. C.

Exceeded only by lake herring in total annual catch, carp--with 16,751,000 pounds--ranks as one of the most valuable species of fish taken in the commercial fisheries of the inland waters of the United States.

In the latest year for which figures are available, the catch of 18,593,000 pounds for the entire United States was worth \$727,000 to the carp fishermen. In 1922, carp fishermen of the country received an all-time high amount of \$872,000 for their catch of 18,339,000 pounds. The second highest value on record--\$858,000--was received in 1908. That year, however, the catch amounted to 30,670,000 pounds, indicating that in 1908 the price per pound was approximately one-half that paid the fishermen in 1922. The greater part of the catch is eaten fresh, but a small amount is smoked.

Although the carp is widely distributed and probably occurs in every State in the Union, the most important commercial fisheries are located on the Mississippi River and its tributaries, and on the Great Lakes--principally in Lakes Michigan (Green Bay), Huron (principally Saginaw Bay), and Erie (in Sandusky Bay and west of Sandusky).

The scientific name of the carp is Cyprinus carpio, applied to it by Linnaeus who was the father of scientific biological nomenclature. There are three chief varieties of carp: (1) the scale carp, completely covered with scales; (2) the mirror carp, so called because of the extraordinarily large scales arranged irregularly over the body with interspersed areas that have no scales; and (3) the leather carp, with no, or only a few, scales and possessing a thick, soft skin that feels velvety to the touch.

In addition to their commercial importance, carp are of recreational interest in many sections of the country. In some areas these fish are planted in quarry holes, and other waters not suitable for other fish, where they furnish both sport fishing and food for the people in the vicinity.

"Each Sunday during the summer", according to Cyrus H. Chilton, Marketing Agent of the Fish and Wildlife Service, "large numbers of people congregate on the shores of Lake Pymatuning, a man-made lake located on the Pennsylvania and Ohio border some 25 miles south of Lake Erie, in order to feed the carp which abound in the lake. On these days the areas surrounding the dams where large schools of carp are to be found take on the atmosphere of a country fair. Hawkers are busily engaged in selling loaves of bread--not to be eaten with the fish but by the fish. The bread is thrown over the dam into the water, a slice at a time, and for each slice literally thousands of half-pound carp immediately rise from the depths below for the tidbit. At the same time there is usually lurking around the edges a flock of semi-wild mallard ducks waiting for this same tidbit of 'free food'. The ducks and the fish make a scramble for the slice of bread at the same time. Usually the carp rise in such numbers that quite a few of them are pushed nearly out of the water. The ducks then walk over the squirming bodies of the fish and pluck the pieces of bread literally out of the very mouths of the fighting carp. It is a three-cornered game in which the people, the ducks, and the fish are equal participants."

Seines and trammel nets are the principal types of gear used in the commercial capture of carp. These fish exhibit a marked tendency to go about in schools, and in regions where they are abundant it is usual to find either a large number in a given locality or else none at all. That these schools are frequently of considerable size is apparent from the fact that one or two tons of carp are frequently taken in a single seine-haul in some of the shallow protected bays and coves of the Great Lakes.

Just as turkeys are fattened to be in prime condition for holiday buying, so are live carp--held in special "ponds" or "cribs"--fed corn and potatoes for months while awaiting express shipment to New York and other eastern markets for the Christmas trade. Corn fattens the carp; improves the flavor of the meat; and, in addition, hardens the flesh, thus improving its condition for shipping.



Carp has entered into the food supply of the country principally through the markets of our large eastern cities. It is a food fish which meets with particular favor among Jewish people who are large consumers of fish. This is because consumption of fish is allowed during parts of the year when meats are excluded from the diet by the tenets of their religion--"Whatsoever hath fins and scales in the waters, in the seas, and in the rivers, them may ye eat." Jewish people living in New York, Philadelphia, and Boston have a preference for fresh-water fish, many choosing to buy them alive so that they may be killed in established Kosher manner. The carp, which survives transportation exceedingly well and arrives at the market in the best of condition whether the journey be 500 or 1,500 miles, is able to meet this religious requirement.

Carp also are popular among our people of Central European birth or ancestry who have established preference for carp mainly as a result of food conditions in their countries of origin. Carp further is claimed to be a favorite food fish of the Japanese and the Chinese, the latter being the first to attempt the artificial culture of fish--using carp--in the fifth century B. C.

To meet the demand for live fish, millions of pounds of carp are brought annually into the New York market. These fish literally "swim" to market, for they are transported in specially constructed, aerated tank cars, by express. A common type of live car carries nine galvanized metal storage tanks and is capable of holding between 12,000 and 30,000 pounds of carp. Air-pumps attached to motors drive oxygen through the tanks to keep the fish alive. Ice is used to prevent the water temperature from rising above 45 degrees Fahrenheit.

When the express cars reach the New York terminal they are met by tank-trucks. The fish are shifted by dip nets into large metal cans so that the weight of the fish can be recorded before they are transferred to the tank-trucks. These trucks, which are aerated and iced, carry the fish to the local wholesaler or retailer where they are stored in "live" tanks pending sale. For the live carp trade, fish weighing 2 to 3 pounds are preferred.

Objection to the carp as a food fish in this country has been based largely on its muddy taste and the fact that it is sometimes coarse. Europeans sometimes place carp in fresh running water for several days before killing them to remove any muddy taste. It is generally conceded that carp cooked with special care can be a real delicacy and people who know how to prepare it affirm its palatability. Most recipes for this type of preparation are of German origin, many of them being very elaborate.

Through experiments carried on in the Fish and Wildlife Service technological laboratory in Washington by the late W. T. Conn, Technologist, it was found that a special preliminary treatment imparted to the cooked fish an excellent flavor. A description of this treatment, extracted from Fishery Circular No. 19, Practical Fish Cookery, follows:

"The treatment consists of covering the dressed fish or fillet with a mixture made in the following proportions:

1 C. salt	1 tsp. black pepper
1 C. onion finely crushed	1/8 tsp. mace
2 tbsp. vinegar	

"Chop and crush the onion by passing through the finest plate of a food chopper, saving all the juice. Mix the ingredients thoroughly. Place the fish in a deep plate and cover all surfaces with the mixture and allow it to stand for one hour. The fish is then thoroughly rinsed and the mixture discarded. The fish then should be washed in a pan of cold water for about one minute to remove any last traces of salt on its surface."

After this preliminary treatment, the carp is ready for preparation to be fried, broiled or baked--without additional seasoning. However, if it is to be boiled, allow  $1\frac{1}{2}$  tbsp. of salt to each quart of water.

### Baked Carp

The fish prepared as previously described may be baked whole with stuffing or baked flat in slices, using regular baking methods, but without additional seasoning. It may be cooked with sliced onions, stewed tomatoes, or other suitable vegetables, if desired, or served with creole sauce, white sauce or other sauces. An excellent dish is obtained by dipping the slices of fish into milk (without salt), rolling in sifted bread crumbs, and putting a teaspoonful of cooking oil over each portion of fish. The fish should be placed in an oiled pan and baked for 10 minutes in a preheated oven at 550 to 600 degrees F.

"The humble carp", according to Norman D. Jarvis, Associate Technologist of the Service, in "Fish is 'Turkey' to Some Americans" (Fishery Market News, December 1939), "is the principal dish on Christmas Eve in many Polish households in the Middle West or other localities in this country having a Polish population. Carp in 'Polish sauce' also is a favorite dish for the Christmas holidays among Germans and immigrants from other middle European countries."

The following recipe for carp, Polish style, is taken from Fish and Wildlife Service Special Memorandum 3518 entitled "Holiday Fish Dishes from Abroad", which has been compiled by Norman D. Jarvis.

### Carp, Polish Style

2 lbs..carp	1 cup black beer
3 tsps. salt	4 ginger cookies
1/4 tsp. pepper	1 tbsp. fat
3 carrots	(preferably beef drippings)

"Melt drippings in stewpan. Lay in part of fish cut in pieces. Cover with sliced carrots which have been parboiled. Then put in another layer of fish, etc. Pour beer on ginger cookies which have been soaked. Then add salt and pepper. Cover and cook slowly for about one hour. Serves four."

H. F. Taylor writes in The Carp: A Valuable Food Resource (Bureau of Fisheries Economic Circular No. 31), "Carp, properly cooked, has been discovered at public eating houses being served under some other name, and only detected by people familiar with the appearance of carp bones. The meat of the carp is excellent when smoked. It has, in fact, been fraudulently sold for the much dearer smoked sturgeon. This only goes to show that it is an acceptable article of food and should go under its own name."

Scientific investigation has shown that the carp is of high food value, is acceptable and palatable when carefully prepared, is easily handled and shipped, and is one of the most prolific fishes found in America. This fish is a commercial asset of considerable proportion and should be utilized to its fullest extent.

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### NEW USE DEVELOPED FOR CRAB SCRAP

Studies conducted at agricultural experiment stations have resulted in the use of dried crab scrap meal as a filler in insecticide dusts. Other experiments undertaken in Maine and Virginia have established the value of this scrap as a source of magnesium in the production of potatoes and other vegetables. Crab scrap, which formerly had no commercial value, provides the required filler for dusting potato leaves when manufactured into a meal and ground to a dust consistency. The use of this meal dust permits the farmer to rid his plants of insect pests and at the same time provide magnesium in the desired quantities. The magnesium present in crab shell waste is of particular value for fertilizing the vegetables because the meal decomposes rapidly and becomes quickly available for use by the plants.

## CANAL ZONE BIOLOGICAL AREA ESTABLISHED

By direction of Congress, the President of the United States recently, under executive order, set aside for use as a wildlife sanctuary an area in Gatun Lake known as Barro Colorado Island. The natural features of the island, except in the event of declared national emergency, shall be left in their natural state for scientific observation and investigation. The Act further provides that the research laboratory on the island be maintained on a permanent basis, and authorizes an appropriation not to exceed \$10,000 a year as a contribution toward the expenses of operating the laboratory.

## DOGFISH LIVERS SOUGHT FOR VITAMIN A

The production of dogfish livers as a source of vitamin A oil in the otter-trawl and handline fisheries is again becoming active in Puget Sound. During the last week in November local fishermen produced about 30,000 pounds of these livers, for which they received 6 cents per pound. With a ban placed on the exports of dogfish livers from Canada, it appears that this fishery in Puget Sound and off the Washington coast will continue to develop during the current winter.

## NEW ENGLAND MACKEREL, POLLOCK, AND COD LANDINGS HEAVY DURING OCTOBER 1940

According to data issued in the Fish and Wildlife Service Statistical Bulletin No. 1405, there were 34,836,000 pounds of fishery products, valued at \$1,051,000, to the fishermen landed during October at Boston and Gloucester, Mass., and Portland, Maine, by vessels of 5 net tons capacity or over. Exceptionally good catches of mackerel, pollock, and cod were reported for the month. The total October landings, as compared with those for the previous month, showed a decline of about 2,000,000 pounds and of nearly \$16,000 in value. During October of the previous year, however, the vessel receipts at the three ports showed a total of 31,841,000 pounds, valued at \$918,000, or 9 percent in poundage and 13 percent in value less than current October deliveries.

The cumulative total for the ten months ending with October 1940 amounting to 310,089,000 pounds was still lagging behind the 1939 total for the corresponding period, which amounted to 324,956,000 pounds.

## FISHERIES OF NEW JERSEY

Pound-net operators in the Beach Haven area of New Jersey reported to the Service's agent in that State that pound-net catches have been abnormally light during the current season up to the middle of October. The possible exception has been the relatively good catches of squid, for which the local demand has been excellent. Most of the squid are said to have been placed in local freezers.

A rising demand for croakers during October also was reported.

In the Tuckerton, New Jersey, area the hard clam production has been comparable with that of the previous two seasons. It is understood that the number of clams in the waters adjacent to that area is still less than the abundance previously available to the fishermen. Market prices are reported to be slightly under those of last year, principally because of the increased competition which has developed from other localities.

## FISHERIES OF NORTH CAROLINA

During the latter part of October and early November commercial fishing activities in most of the coastal areas of North Carolina were reported by the field agent of this Service to have been extremely curtailed. It was indicated that weather conditions were unfavorable



for most fishing, with heavy winds prevailing during that period. The "outside" shrimp fishery which had been expected by many of the fishermen had not materialized, resulting in a very low production of fall shrimp. Small catches of sea bass have been reported from Beaufort and Swansboro with the majority of the fish weighing about one pound each. Inclement weather has adversely affected the amount of fish that the handline boats which specialize in the sea bass fishery have been able to catch.

The menhaden fleet was as usual in November concentrated at Morehead City and Beaufort. Approximately 50 vessels were operating out of these two ports; however, as yet catches of menhaden have been only mediocre.

#### COLORFUL CEREMONY OPENS SOUTHERN SHRIMP SEASON

With a ceremony dating back several centuries, the annual blessing of the shrimp fleet in several communities in Southern Louisiana and Mississippi was held just prior to the official opening of the shrimp canning season on August 10. According to the Fish and Oyster Reporter, the immediate predecessor of the Louisiana ceremony is that held annually in Brittany. The ceremony, based on Number 23 of the Roman Ritual and accompanied by a simple prayer as the boats were sprinkled with holy water, was attended with all reverence. About 100 trawlers of the Barataria shrimp fleet in Jefferson Parish received the blessing. Following the solemn high mass, the fishermen and their families marched to the wharf and chanted the Litany of the Saints. Individually, the boats passed in review, swerving into the wharf to receive the blessing.

Westwego and Empire communities in Plaquemines Parish held their first blessing rites this year thereby inaugurating the custom there.

#### CHICAGO RECEIPTS OF FISH SHOW GAIN IN OCTOBER

Receipts of fishery products at the Chicago Wholesale Fish Market during October showed a gain of 23 percent as compared with the volume received during the previous month. Marked increases in the movement of lake trout, whitefish, and shrimp into Chicago accounted for the major portion of the gain. Of the total quantity of fishery products received during the month, 50 percent consisted of fresh-water fish, 23 percent salt-water fish, and 27 percent shellfish. Products of domestic origin accounted for 76 percent of the receipts.

During the first 10 months of the current year receipts of fish and shellfish at the Chicago Wholesale Fish Market were 23 percent greater than in the corresponding period in 1939. Although over 70 items were included in the receipts, 5 of these--halibut, shrimp, lake trout, whitefish, and rosefish fillets--accounted for one-half of the total.

#### Chicago Wholesale Receipts in Fishery Products (From Fishery Market News Service Records)

Item	October 1940	Oct. 1940 compared with		10-months Jan.-Oct. 1940	10-mo. 1940 com- pared with 10-mo. 1939
Classification:	Pounds	Percent	Percent	Pounds	Percent
Fresh-water fish	3,012,000	+ 38	+ 8	25,547,000	+16
Salt-water fish	1,391,000	- 23	-14	13,599,000	+33
Shellfish, etc.	1,589,000	+ 80	+27	8,535,000	+32
Total receipts	5,992,000	+ 23	+ 6	47,681,000	+23
Leading Items:*					
Lake trout	781,000	+ 23	+28	4,869,000	+26
Whitefish	439,000	+ 93	+18	3,480,000	+41
Yellow perch	513,000	+ 1	+ 1	2,446,000	+29
Halibut	766,000	- 4	-14	6,624,000	+18
Rosefish fillets, froz.	175,000	- 59	-38	2,908,000	+75
Salmon	140,000	- 29	-49	1,136,000	+17
Shrimp	1,200,000	+104	+46	5,829,000	+24

## Chicago Wholesale Receipts in Fishery Products--continued

(From Fishery Market News Service Records)

Item	October 1940	Oct. 1940 compared with		10-months Jan.-Oct. 1940	10-mo. 1940 com- pared with 10-mo. 1939
	Pounds	Percent	Percent	Pounds	Percent
Leading Sources:					
Louisiana	887,000	+92	+324	4,865,000	+57
Michigan	787,000	+29	+29	6,131,000	+32
Wisconsin	462,000	+8	-3	6,029,000	+26
Domestic total	4,542,000	+40	+13	33,316,000	+23
Imported total	1,450,000	-11	-12	14,365,000	+23
Transported by:					
Truck	2,111,000	+22	+22	16,336,000	+43
Express	1,842,000	-6	-16	16,676,000	+19
Freight	2,039,000	+70	+18	14,669,000	+10

\* Includes fresh and frozen.

## NORTHWEST SHARK FISHERY NOTES

Reports from the Service's Seattle agent indicate that the newest of the Pacific Coast fisheries, the soup-fin shark fishery, is continuing to flourish. Because of the extremely high vitamin A potency of soup-fin shark livers, the demand for this product has increased and the price has increased to the extent that buyers are now offering fishermen from 80 cents to \$1.00 per pound for the livers, or \$150 per ton for the round sharks. The chief center of the fishery is said to be off the mouth of the Columbia River where vessels which ordinarily operate in the halibut and tuna fisheries are making good catches of all species of sharks. The dogfish shark, another species caught in great numbers, also yields large livers, for which buyers have been offering 6 cents per pound as the vitamin potency of the oil extracted from the dogfish liver is less than that taken from the soup-fin.

## SHIFT IN PACIFIC HALIBUT LANDINGS NOTED DURING 1940 SEASON

The Pacific Coast halibut season came to a close at midnight September 26, marking the termination of the shortest season in the history of the fishery. An interesting point which has been reported by the Service's Seattle agent is the increased shifting of halibut landings from Seattle to Prince Rupert, British Columbia, during the 1940 season. For the last six years, there has been a gradual but continuous trend in this direction, largely due to the ever-increasing number of vessels landing their fares at Prince Rupert in order to save running time from the fishing banks to Seattle.

Pacific Coast halibut landings approximated 51,000,000 pounds during the season just closed, as compared with 46,500,000 pounds in 1935. Prince Rupert halibut landings in 1935 totaled 14,525,000 pounds, or about 31 percent of the Pacific Coast total in that year, while during the 1940 season the landings at that port amounted to slightly more than 20,500,000 pounds, or 40 percent of the total. This represents an increase of more than 41 percent in the receipts of halibut at Prince Rupert in the last six-year period. On the other hand, deliveries of halibut at Seattle, Washington, dropped from 21,400,000 pounds in 1935 to 18,586,000 pounds in 1940, representing a substantial decrease in the percentage of the total Pacific Coast halibut catch landed at this port.

## NORTHWEST PILCHARD SEASON POOR

With no landings reported since the middle of August, the Washington-Oregon pilchard season closed with one of the poorest showings made since the beginning of the industry.

Comparative statistics indicate that the 1940 pilchard catch was not more than 10 percent of the 1939 total. In 1940 the landings up to September 30 at Washington and Oregon reduction plants amounted to 4,011 tons, as compared with 40,311 tons during the previous season.

Fishing operations were reportedly hampered by fog and rough weather at times when there were indications of schools of fish off the Oregon coast. However, it is believed that the almost complete lack of fish in Washington waters was due to the pilchard schools occurring farther northward off British Columbia.

#### BRITISH COLUMBIA COOPERATIVES MARKET OVER FIVE MILLION POUNDS OF FISH

It has been reported to the Commercial Fishermen's Weekly, a trade paper published in Vancouver, B. C., that British Columbia's two troll fishermen's cooperatives--the Prince Rupert Fishermen's Cooperative Association and the Kyuquot Trollers' Cooperative Association--marketed a total of 5,410,000 pounds of fish, chiefly salmon, during 1940. The Prince Rupert Fishermen's Cooperative Association reported 2,899,000 pounds of fish produced, 75 percent of which were coho or silver salmon, and the Kyuquot Cooperative produced the remainder of the total.

The second year of an educational campaign on the cooperative movement has been inaugurated by the Extension Department of the University of British Columbia. Three field workers have been sent out to explain the principles of the movement to fishermen along the entire coast, according to the same source quoted above. Funds for this program have been made available by the Dominion Fisheries Department. In Prince Rupert, the first lecture of the season, on October 31, 1940, dealt with the establishment of credit unions.

#### SLOW CANNED SALMON MARKET EXPECTED THIS SEASON IN SOUTH AFRICA

The immediate outlook for canned salmon in South Africa is obscured by the relatively large stocks which are reported to be held by merchants in that country, according to J. H. English, Canadian trade commissioner, writing in the Commercial Intelligence Journal. At the outbreak of the war, most wholesalers bought heavily, and at the present time, large inventories of canned salmon remain on hand. This is not the case with all wholesalers, according to the report, but it is certain that unless prices are particularly attractive, sales during the current season will be slow. Because trade generally is being retarded by the war, especially in so-called luxury lines, the exercise of caution by wholesalers is advisable.

In 1939 Canada was the largest individual supplier of canned salmon to the South African market, being credited with somewhat over 3,400,000 pounds of this commodity. Second in importance was Japan, supplying 1,500,000 pounds; third, Russia, with 600,000 pounds; and fourth, the United States, with 300,000 pounds. This trade was made up, to a very large extent, of the cheaper varieties of salmon, such as chum and pink. Some red salmon is marketed, also, the shipments chiefly originating from Siberia or Japan. This pack is offered principally in 1-pound flat tins, and the public has come to accept this style of pack as essential to first-class red salmon. On the other hand, 1-pound tall tins, containing pink and chum salmon, are naturally cheaper than the flat tin, and in many instances the native consumer has the impression that it contains more fish than does the 1-pound flat.

#### FROZEN FISH TRADE

##### Domestic Holdings of Frozen Fishery Products Largest in History

Record stocks of frozen fishery products amounting to 97,627,000 pounds were reported held on November 15 by domestic cold-storage firms. This represents an increase of 3 percent over the previous record holdings of 94,695,000 pounds, which were reported for December 15, 1936. Holdings on November 15 were 15 percent greater than those on the corresponding date last year, and likewise 15 percent greater than the 5-year average for this

date. Stocks of all leading items, except rosefish fillets, were larger than a year ago. Those of cod and pollock fillets, halibut, mackerel, sablefish, salmon, whiting, and shrimp showed gains of from 31 to 94 percent over 1939.

#### Holdings of Fishery Products in United States Cold-storage Plants 1/

Item	Nov. 15 1940	Nov. 15 compared with				October 15 1940	November 15 1939	5-yr. Average Nov. 15
		Oct. 15 1940	Nov. 15 1939	5-yr. av. Nov. 15				
	Pounds	Percent	Percent	Percent	Pounds	Pounds	Pounds	
<b>Frozen fish and shellfish:</b>								
New England	29,469,000	+ 3	+13	+ 9	28,485,000	26,144,000	27,042,000	
Middle Atlantic	15,631,000	+ 5	+ 5	+ 24	14,828,000	14,840,000	12,598,000	
South Atlantic	4,592,000	+ 15	+ 4	+ 43	3,992,000	4,413,000	3,216,000	
Central	21,631,000	+ 18	+12	+ 25	18,331,000	19,344,000	17,243,000	
Pacific	26,304,000	- 4	+33	+ 6	27,519,000	19,830,000	24,881,000	
Total	97,627,000	+ 5	+15	+ 15	93,155,000	84,571,000	84,980,000	
<b>Important items:</b>								
Cod fillets	2,679,000	+ 48	+34	2/	1,815,000	1,993,000	2/	
Haddock fillets	7,719,000	- 8	+ 8	+ 7	8,395,000	7,178,000	7,201,000	
Halibut	12,401,000	- 21	+31	+ 23	15,661,000	9,450,000	10,110,000	
Mackerel	8,981,000	- 1	+40	+ 56	9,032,000	6,434,000	5,766,000	
Pollock fillets	2,131,000	+113	+94	2/	415,000	1,099,000	2/	
Rosefish filts.	1,480,000	- 11	-56	2/	1,655,000	3,381,000	2/	
Sablefish	3,106,000	+ 37	+33	+ 34	2,259,000	2,342,000	2,321,000	
Salmon	11,923,000	+ 8	+53	+ 27	11,011,000	7,771,000	9,370,000	
Whitefish	2,374,000	+ 7	+48	+116	2,226,000	1,607,000	1,098,000	
Whiting	10,231,000	- 3	+18	+ 9	10,519,000	8,705,000	9,397,000	
Shrimp	5,793,000	+ 59	+69	2/	3,635,000	3,427,000	2/	
<b>Cured fish:</b>								
Herring, cured	21,608,000	- 7	+32	+ 47	23,160,000	16,334,000	14,738,000	
Salmon, mild-cured	6,735,000	- 6	-16	- 10	7,175,000	8,044,000	7,452,000	

1/ Statistics furnished by the Agricultural Marketing Service, Department of Agriculture.

2/ Data not available.

Freezings of fishery products during the month ending November 15 were unusually large for this period of the year. Four items--mackerel, pollock fillets, salmon, and whiting--showed increases of over 50 percent in the volume frozen as compared with the same month in 1939. The only leading items frozen in smaller quantities than a year ago were haddock and rosefish fillets.

#### Fishery Products Frozen in United States Cold-storage Plants 1/

(Figures are for the month ending on the date indicated)

Item	Nov. 15 1940	Nov. 15 compared with				October 15 1940	November 15 1939	5-yr. Average Nov. 15
		Oct. 15 1940	Nov. 15 1939	5-yr. av. Nov. 15				
	Pounds	Percent	Percent	Percent	Pounds	Pounds	Pounds	
Total products	22,716,000	+ 5	+ 23	+ 10	21,558,000	18,434,000	20,723,000	
<b>Important items:</b>								
Haddock	783,000	- 52	- 29	- 36	1,631,000	1,101,000	1,214,000	
Halibut	972,000	- 54	+ 3	- 10	2,091,000	945,000	1,083,000	
Mackerel	1,206,000	+ 31	+360	+131	921,000	262,000	523,000	
Pollock fillets	2,239,000	+246	+ 51	2/	648,000	1,484,000	2/	
Rosefish fillets	1,612,000	- 21	- 10	2/	2,049,000	1,795,000	2/	
Sablefish	1,422,000	+ 11	+ 20	+ 62	1,281,000	1,189,000	879,000	
Salmon	2,714,000	+ 3	+ 59	- 34	2,645,000	1,703,000	4,108,000	
Whiting	1,396,000	- 32	+ 59	+38	2,066,000	879,000	1,010,000	
Shrimp	3,102,000	+ 45	+ 38	2/	2,134,000	2,246,000	2/	

1/ Statistics furnished by the Agricultural Marketing Service, Department of Agriculture.

2/ Data not available.

## Boston Cold-storage Holdings 35 Percent Above a Year Ago

Boston inventories of frozen fish and shellfish on hand on November 27, 1940, were 4 percent greater than the holdings a month earlier and 35 percent above those on November 29, 1939. Although the holdings of most species declined during the month, the slight increase in the total poundage of fishery products held was due chiefly to extremely sharp increases in stocks of pollock and cod fillets, and shrimp. As compared with a year ago, the November 27, 1940, stocks were generally greater with the exception of the holdings of squid, which were 46 percent below the November 29, 1939, holdings. The following table lists the holdings on November 27 and compares them with the stocks on hand October 30, 1939, and November 29, 1939. This tabulation is taken from records of the Fishery Market News Service.

Item	Nov. 27, 1940	Nov. 27 compared with		Oct. 30, 1940	Nov. 29, 1939
		Oct. 30, 1940	Nov. 29, 1939		
	Pounds	Percent	Percent	Pounds	Pounds
Total fish and shellfish	18,369,000	+ 4	+ 35	17,698,000	13,652,000
Leading items:					
Cod fillets	1,714,000	+100	+ 20	855,000	1,425,000
Haddock fillets	3,405,000	- 14	+ 12	3,938,000	3,053,000
Pollock fillets	1,914,000	+957	+ 28	181,000	1,495,000
Mackerel	3,987,000	- 13	+ 51	4,587,000	2,637,000
Smelt	341,000	- 11	+326	384,000	80,000
Swordfish (Jap.)	14,000	- 91	- 71	159,000	48,000
Swordfish(native)	291,000	- 3	+341	301,000	66,000
Whiting	2,107,000	- 9	+ 57	2,306,000	1,346,000
Scallops	561,000	- 4	+ 27	586,000	441,000
Shrimp	318,000	+ 59	+ 87	200,000	170,000
Squid	424,000	- 14	- 46	495,000	792,000

## New York Holdings of Frozen Mackerel, Salmon and Whitefish Show Increase

Increased holdings of frozen mackerel, king salmon, whitefish, and shrimp were largely responsible for an 11 percent gain in the stocks of frozen fishery products held in New York freezers on November 28, as compared with the holdings on approximately the same date last year. These species showed gains of from 35 to 136 percent, which more than offset marked declines in the holdings of such important items as ciscoes, shad, and butterfish.

Of the total holdings of 10,488,000 pounds in New York cold-storage plants on November 28, salt-water fish accounted for 50 percent; fresh-water fish 31 percent; and shellfish 19 percent. The leading items in storage were whitefish, which accounted for 19 percent of the total holdings; and shrimp and mackerel, which accounted for 10 percent each. The following table, taken from the records of the Fishery Market News Service, shows the holdings in New York on November 28, comparing these figures with the holdings of earlier dates.

Item	Nov. 28, 1940	Nov. 28 compared with		Oct. 31, 1940	Nov. 30, 1939
		Oct. 31, 1940	Nov. 30, 1939		
	Pounds	Percent	Percent	Pounds	Pounds
Total fish and shellfish	10,488,000	+ 9	+ 11	9,644,000	9,453,000
Leading items:					
Butterfish	421,000	+ 9	- 38	388,000	676,000
Mackerel	1,027,000	-11	+ 85	1,151,000	556,000
Salmon, king	763,000	+16	+ 78	659,000	428,000



Item	Nov. 28, 1940	Nov. 28 compared with		Oct. 31, 1940	Nov. 30, 1939
		Oct. 31, 1940	Nov. 30, 1939		
Leading items	Pounds	Percent	Percent	Pounds	Pounds
(continued):					
Salmon, silver	145,000	-33	- 15	218,000	170,000
Shad	242,000	- 2	- 44	246,000	433,000
Ciscoes	180,000	+29	- 65	139,000	513,000
Sturgeon	603,000	- 8	- 36	654,000	937,000
Whitefish	1,973,000	+13	+136	1,743,000	835,000
Lobster tails,					
spiny	89,000	-35	+ 59	137,000	55,000
Scallops	466,000	+ 4	+ 25	448,000	373,000
Shrimp	1,079,000	+ 8	+ 35	995,000	802,000

#### Chicago Cold-storage Holdings Increase During November

Public cold-storage plants in Chicago on November 28, 1940, reported holdings of 5,072,000 pounds of fishery products, which amounted to an increase of 24 percent over the holdings four weeks previous to that date. As compared with the stocks of frozen fish a year ago, the November 28, 1940, holdings were 14 percent less. During the month of November considerable quantities of lake herring and chub, lake trout, and shrimp entered Chicago freezers, resulting in an increase of 63 percent, 79 percent, and 49 percent, respectively, in holdings of these species. Blue pike and sauger inventories were 22 percent below those of a month ago and 91 percent less than on approximately the same date the previous year. Halibut and cod fillet stocks were about double the amount held on November 30 last year.

Changes in the holdings of all important varieties, as compiled from Fishery Market News Service records in Chicago, are shown in the following tabulation.

Item	Nov. 28, 1940	Nov. 28 compared with		Oct. 31, 1940	Nov. 30, 1939
		Oct. 31, 1940	Nov. 30, 1939		
	Pounds	Percent	Percent	Pounds	Pounds
Total fish and shellfish	5,072,000	+24	- 14	4,104,000	5,865,000
Leading items:					
Blue pike and sauger	71,000	-22	- 91	91,000	811,000
Lake herring and chubs	395,000	+63	- 20	242,000	493,000
Lake trout	667,000	+79	- 31	372,000	960,000
Smelt	256,000	- 4	+ 22	268,000	210,000
Whitefish	298,000	+ 1	- 26	296,000	401,000
Cod fillets	175,000	+ 6	+ 88	165,000	93,000
Halibut	578,000	+14	+110	507,000	275,000
Rosefish fillets	125,000	+13	- 61	111,000	323,000
Scallops	130,000	- 5	+ 78	137,000	73,000
Shrimp	799,000	+49	+ 70	535,000	471,000

#### FOREIGN FISHERY TRADE

##### Canned Sardines Take Lead in Exports of Edible Fishery Products

Exports of edible fishery products from the United States during October amounted to 10,985,000 pounds, a decline of 11 percent from the previous month and of 41 percent from the volume of these exports in October 1939. Reduced shipments of canned salmon and sardines to the United Kingdom accounted for the major portion of the decline.

Canned sardines was the principal item exported in October, displacing canned salmon from first position which it had held since June. The United Kingdom received 67 percent of the canned sardines exported from this country during the month; Canada, 11 percent; the Philippine Islands, 6 percent; and Venezuela, 3 percent. Shipments of canned salmon to the United Kingdom in October accounted for 89 percent of the total exports of that product. Over 90 percent of the canned shrimp exported during the month was shipped to Canada.

Exports of both canned salmon and sardines during the first ten months of 1940 were the largest in recent years. Total exports of edible fishery products during the first ten months of the year were 21 percent greater than in the same period last year.

#### United States Exports of Edible Fishery Products <sup>1/</sup>

Item	October 1940	October 1939	Ten months ending with October 1940	Ten months ending with October 1939
	Pounds	Pounds	Pounds	Pounds
Salmon, canned	3,498,000	5,829,000	52,359,000	35,249,000
Sardines, canned	4,948,000	10,349,000	54,230,000	43,298,000
Shrimp, canned	365,000	779,000	1,967,000	5,265,000
Other products	2,174,000	1,555,000	14,937,000	18,346,000
Total	10,985,000	18,512,000	123,493,000	102,158,000

<sup>1/</sup> Data furnished by Bureau of Foreign and Domestic Commerce.

#### Imports of Edible Fishery Products Less than in 1939

During October, 28,239,000 pounds of edible fishery products were imported into the United States--19 percent more than in the previous month, but 21 percent less than in October 1939. Among the leading items imported during the month were salted groundfish, which accounted for 28 percent of the total; fresh or frozen fresh-water fish, 18 percent; and fresh or frozen sea herring, 15 percent.

The effect of the present conflict in Europe on foreign trade in fishery products is especially noticeable in the imports of canned sardines. Receipts of this item during October totaled 991,000 pounds as compared with 5,108,000 pounds in the same month last year. Imports of canned sardines during the first ten months of the year amounted to 11,499,000 pounds, as against 27,796,000 pounds during the same period in 1939.

Total imports of edible fishery products during the first ten months of the current year were 15 percent less than in the same period the previous year.

#### Imports of Edible Fishery Products into the United States

Item	October 1940	October 1939	Ten months ending with October 1940	Ten months ending with October 1939
	Pounds	Pounds	Pounds	Pounds
Fresh or frozen:				
Fresh-water fish	4,978,000	5,326,000	43,974,000	41,558,000
Halibut	89,000	752,000	4,324,000	5,223,000
Salmon	851,000	1,263,000	6,241,000	5,641,000
Sea herring	4,143,000	2,300,000	18,952,000	30,286,000
Swordfish and sturgeon	65,000	111,000	3,099,000	3,843,000
Tuna	1/	212,000	6,258,000	13,400,000
Fish filleted, skinned, boned, etc.	1,131,000	1,284,000	13,187,000	13,694,000
Lobsters	440,000	287,000	14,881,000	13,325,000

## Imports of Edible Fishery Products into the United States--continued

Item	October 1940	October 1939	Ten months ending with October 1940	Ten months ending with October 1939
	Pounds	Pounds	Pounds	Pounds
Pickled or salted:				
Cod, haddock, hake, etc.	7,909,000	7,672,000	40,740,000	43,893,000
Herring	2,928,000	2,378,000	21,636,000	22,650,000
Canned:				
Crab meat	355,000	1,699,000	11,642,000	9,933,000
Lobsters	203,000	77,000	1,454,000	762,000
Sardines	991,000	5,108,000	11,499,000	27,796,000
Tuna	469,000	926,000	6,575,000	8,616,000
Other, fresh, frozen, salted, canned, etc.	3,687,000	6,542,000	43,029,000	50,659,000
Total	28,239,000	35,937,000	247,491,000	291,279,000

1/ Less than 500.

## THE COVER PAGE

The floating trap is an important fishing gear in many of the commercial fishing areas of the country. The trap pictured on the cover this month is being operated in the vicinity of Cape Ann, Massachusetts, where this gear makes large catches of whiting and mackerel each year.

**FISHERY TRADE INDICATORS**  
(Expressed in Thousands of Pounds)

Item	Month	Latest month	Same month a year ago	Previous month
<b>FRESH FISH LANDINGS</b>				
Boston, Mass.	October	23,089	22,738	24,644
Gloucester, Mass.	do	9,887	7,462	10,710
Portland, Me.	do	1,890	1,642	1,561
Boston, Gloucester, and Portland:				
Cod	do	6,616	4,356	4,769
Haddock	do	7,742	10,920	12,638
Pollock	do	3,621	2,213	1,795
Rosefish	do	8,667	8,373	8,082
Pacific Coast:				
Halibut, North Pacific ports	do	1,891	3,645	5,331
Halibut, Seattle	do	1,539	2,561	2,359
<b>FISH RECEIPTS, CHICAGO 1/</b>				
Salt-water fish	do	1,391	1,620	1,818
Fresh-water fish	do	3,012	2,784	2,184
Shellfish, etc.	do	1,566	1,254	885
By truck	do	2,110	1,724	1,730
By express	do	1,842	2,202	1,961
By freight	do	2,039	1,733	1,197
<b>COLD-STORAGE HOLDINGS 2/</b>				
New York, N. Y.:				
Salt-water fish	November	5,241	4,754	4,640
Fresh-water fish	do	3,294	2,692	3,066
Shellfish, etc.	do	1,953	2,006	1,938
Boston, Mass.:				
Salt-water fish	do	16,929	12,214	15,340
Fresh-water fish	do	67	34	68
Shellfish, etc.	do	1,373	1,404	1,290
Chicago, Ill.:				
Salt-water fish	do	1,680	1,515	1,412
Fresh-water fish	do	2,075	3,469	1,678
Shellfish, etc.	do	1,005	690	769
Unclassified	do	313	170	245
United States:				
Cod fillets	do	2,679	1,993	1,815
Haddock fillets	do	7,719	7,178	8,395
Halibut	do	12,401	9,450	12,661
Mackerel	do	8,981	6,454	9,032
Pollock fillets	do	2,131	1,099	415
Rosefish fillets	do	1,460	3,361	1,655
Salmon	do	11,923	7,771	11,011
Whiting	do	10,231	8,705	10,519
Shrimp	do	5,593	3,427	3,635
New England, all species	do	29,470	25,144	28,485
Middle Atlantic, all species	do	15,631	14,840	14,828
South Atlantic, all species	do	4,592	4,413	3,992
North Central East, all species	do	13,826	13,056	12,007
North Central West, all species	do	3,742	4,079	3,303
South Central, all species	do	4,063	2,209	3,021
Pacific, all species	do	25,304	19,830	27,519
<b>FOREIGN FISHERY TRADE 3/</b>				
Exports:				
All edible fishery commodities	October	10,985	18,512	12,306
Canned salmon	do	3,498	5,829	8,096
Canned sardines	do	4,948	10,349	980
Canned shrimp	do	365	779	146
Imports:				
All edible fishery commodities	do	28,239	35,937	25,732
Fresh-water fish and eels, fresh or frozen	do	4,978	5,326	4,595
Canned tuna	do	469	926	544
Canned sardines	do	991	5,108	1,198
Cod, haddock, hake, etc., pickled or salted	do	7,909	7,672	3,270
Herring, pickled or salted	do	2,928	2,378	960
Crab meat, sauce, etc.	do	355	1,699	500
Lobsters, not canned	do	440	287	575
Lobsters, canned	do	203	77	183

1/ Includes all arrivals as reported by express and rail terminals, and truck receipts as reported by wholesale dealers, including smokers.

2/ Data for individual cities are as of the last Thursday of the month, except those at Boston which are for the last Wednesday of the month, and those for geographical areas and the total of the United States which are as of the 15th of the month.

3/ From data compiled by the Bureau of Foreign and Domestic Commerce.

Note.—Data for the latest month are subject to revision.

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Trends and conditions of the United States fisheries in the Great Lakes and International Lakes. Cyrus H. Chilton. June, p. 3.

United States canned fishery products and byproducts worth 130 million dollars in 1939. Aug., p. 14.

United States fisheries yield four and one-quarter billion pounds in 1938. July, p. 7.

United States grades immense quantities of meat. Aug., p. 7.

Value of manufactured fishery products decreases in 1938. July, p. 7.

**URUGUAYAN FISHING INDUSTRY:** Extension of Uruguayan fishing industry proposed. Feb., p. 12.

**WARTIME POLICY FOR AGRICULTURE:** Canada makes wartime policy for agriculture. Sept., p. 12.

**WASHINGTON:**

Annual bulletin of Washington State fisheries is issued. Apr., p. 9.

Fisheries of. Mar., p. 11; Apr., p. 9; June, p. 13.

**WASHINGTON, D. C.:**

Eighth annual scientific congress meets in Washington, D. C. June, p. 9.

Tariff Commission changes date of Washington, D. C., crab meat hearing. Nov., p. 5.

**WEBSTER, JOHN R.:** Winter fishery for Atlantic mackerel a failure. Feb., p. 6.

**WHALES:**

German whale utilization halted by war. June, p. 16.

Japanese obtain record whale oil production. May, p. 13.

Large quantities of whale products realized from United States whaling operations. July, p. 11.

Profitable whale catch expected by Japan. Jan., p. 14.

Resume of the Joint Regulations of March 18, 1940, concerning whaling. Apr., p. 10.

Seven nations engage in 1938-39 Antarctic whaling. June, p. 17.

Three companies obtain United States whaling licenses in 1939. June, p. 18.

Whale oil production of Faroe Islands up. Jan., p. 14.

**WHITEFISH:** Frozen. See **FROZEN FISH TRADE**.

**VIRGINIA:**

Fisheries of. Sept., p. 10; Oct., p. 15.

Fisheries of Virginia during 1939. L. S. Christey. May, p. 5.

Virginia attempts to trace shad migrations. May, p. 10.

**VITAMIN A:** Dogfish livers sought for vitamin A. Dec., p. 6.

## FISHERY INDUSTRIAL AND MARKETING PUBLICATIONS

There follows a list of some of the industrial or marketing publications of the Fish and Wildlife Service which are available for purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C., at the prices quoted. Price List 21, the most complete list of titles and prices of fishery sales publications of the Service, may be obtained from the Superintendent of Documents free of charge.

### INVESTIGATIONAL REPORTS

- No. 43. Some Effects of Ultraviolet Irradiation of Haddock Fillets. 1939. 5¢.
- No. 42. A Plan for the Development of the Hawaiian Fisheries. 1939. 10¢.
- No. 41. The Mineral Content of the Edible Portions of Some American Fishery Products. 1938. 5¢.
- No. 40. Pacific Salmon Oils. 1939. 5¢.
- No. 39. Trade in Fresh and Frozen Fishery Products and Related Marketing Considerations in the San Francisco Bay Area. 1938. 10¢.
- No. 38. Marketing of Shad on the Atlantic Coast. 1938. 10¢.
- No. 37. Preliminary Report on the Cause of the Decline of the Oyster Industry of the York River, Va., and the Effects of Pulp-mill Pollution on Oysters. 1938. 10¢.
- No. 32. Studies on Drying Cod and Haddock Waste. 1935. 5¢.
- No. 30. Effect of Manufacture on the Quality of Menhaden Fish Meals. 1935. 5¢.
- No. 28. Studies on the Utilization of Swordfish Livers. 1935. 5¢.
- No. 26. Fishery for Red Snappers and Groupers in the Gulf of Mexico. 1935. 5¢.
- No. 25. The Iodine Content of Some American Fishery Products. 1935. 5¢.
- No. 24. Modifications in Gear Curtail the Destruction of Undersized Fish in Otter Trawling. 1935. 5¢.
- No. 20. Studies on the Smoking of Haddock. 1934. 5¢.
- No. 18. The Iodine Content of Oysters. 1934. 5¢.
- No. 16. Developments in Refrigeration of Fish in the United States. 1932. 5¢.
- No. 14. Fisheries of the Virgin Islands of the United States. 1932. 5¢.
- No. 13. Fisheries of Puerto Rico. 1932. 5¢.
- No. 7. Market for Marine Animal Oils in the United States. 1931. 15¢.
- No. 1. Menhaden Industry. 1931. 25¢.

### FISHERY CIRCULARS

- No. 25. Natural History and Methods of Controlling the Common Oyster Drills. 1937. 5¢.
- No. 23. Decline in Haddock Abundance on Georges Bank and a Practical Remedy. 1936. 5¢.
- No. 22. Organizing and Incorporating Fishery Cooperative Marketing Associations. 1936. 5¢.
- No. 21. The Story of Oysters. 1936. 5¢.
- No. 19. Practical Fish Cookery. 1935. 5¢.
- No. 18. Conditions Affecting the Southern Winter Trawl Fishery. 1935. 5¢.
- No. 15. Aquatic Shell Industries. 1934. 5¢.
- No. 12. Introduction of Japanese Oysters into the United States. 1932. 5¢.
- No. 11. Some Unusual Markets for Fish and Shellfish. 1932. 5¢.
- No. 3. Market for Fresh Oysters in 14 Cities of the United States. 1931. 10¢.

### ECONOMIC CIRCULARS

- No. 74. Application of Preservatives to Fishing Nets. 1931. 5¢.
- No. 69. Salmon--an Economical and Valuable Food. 1929. 10¢.

### DOCUMENTS

- No. 1092. Pacific Salmon Fisheries. 1930. 65¢.
- No. 1078. Utilization of Shrimp Waste. 1930. 10¢.
- No. 1075. Net Preservative Treatments. 1930. 5¢.
- No. 1065. Bibliography on Cod-liver Oil in Animal Feeding. 1929. 10¢.
- No. 1059. Fishing Grounds of the Gulf of Maine. 1929. 25¢.

### ADMINISTRATIVE REPORTS

- No. 37. Fishery Industries of the United States, 1938. 35¢.
- No. 36. Alaska Fishery and Fur-seal Industries in 1938. 15¢.
- No. 35. Progress in Biological Inquiries, 1938. 15¢.
- No. 34. Propagation and Distribution of Food Fishes, Fiscal Year 1938. 10¢.

ORDERS FOR THE ABOVE-LISTED PUBLICATIONS SHOULD BE FORWARDED DIRECT TO THE  
SUPERINTENDENT OF DOCUMENTS, GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C.,  
AND NOT TO THE FISH AND WILDLIFE SERVICE

## PRACTICAL FISH COOKERY

Fishery Circular No. 19

Few foods can furnish the quality and variety of nutritional factors which are provided in seafoods. Fish and shellfish are excellent sources of highly digestible proteins, are good sources of vitamins, and contain an abundance of minerals in quantity and variety.

Seafoods would be served much more frequently in American homes if better methods for their preparation for the table were more widely known. Consequently, the Bureau of Fisheries prepared a booklet which includes tested recipes on fish cookery. Since pan-dressing or sautéing of fish is one of the most popular methods of cookery employed by the housewife, the following successful method covering this procedure has been excerpted from this booklet:

### Pan Frying or Sautéing Fish

- 2 lbs. fillets or steaks about 5/8 in. thick,  
or 3 lbs. whole fish or fish split to about  
5/8 in. thick.
- 1 C. yellow cornmeal and flour, equal parts.
- 1 1/3 Tbsp. salt.
- 4 Tbsp. cooking fat or oil.

Heat fat over a slow fire in a heavy cast-metal pan if available. Cut fish to service portions. Sift together the cornmeal, flour, and salt. Dip fish in water and cover well with dry ingredients. At the first sign of the fat smoking, place the fish in the pan and cook 3 minutes. Cover the pan and remove it from fire to allow fish to cook in its own steam about 2 minutes. Remove cover, turn fish, return pan to flame, and cook 3 minutes longer. Fish less than 5/8 in. thick will require a shorter cooking time, while thicker fish will require longer cooking.

The booklet also includes general information on broiling, baking, boiling, and planking of fish, and in addition includes specific recipes for the preparation of oysters, shrimp, crabs, clams, lobsters, scallops, salted fish, smoked fish, chowders, flaked fish, and fish sauces.

This booklet may be obtained from the Superintendent of Documents, Government Printing Office, this city, by requesting Fishery Circular No. 19, entitled "Practical Fish Cookery", by Agnes I. Webster and W. T. Conn. The cost per copy is 5 cents.

## THE MINERAL CONTENT OF THE EDIBLE PORTIONS OF SOME AMERICAN FISHERY PRODUCTS

Investigational Report No. 41

In addition to the established value of fishery products as protein foods and the importance of many of them as sources of vitamins, seafoods also are excellent sources of many essential minerals, according to Fisheries Investigational Report No. 41, entitled "The Mineral Content of the Edible Portions of Some American Fishery Products", by Hugo W. Nilson and E. J. Coulson. The report brings out the following facts, among others:

1. The flesh of canned salmon is an excellent source of protein and calories. The bones are soft and are an exceptional source of bone forming minerals. Canned salmon contains an equal quantity of magnesium, almost twice the phosphorus and about fifteen times as much calcium as beef round.

2. Oysters are an excellent source of iron and copper and are one of the best sources of iodine. They follow pork and beef as a source of iron and are first in copper content among common food stuffs on the basis of an average serving portion. They also contain almost half as much calcium, 5 times as much magnesium and more phosphorus than milk on an equal weight basis.

3. Shrimp contain an equal quantity of phosphorus, twice the magnesium, and almost 5 times as much calcium as beef round. They include almost one-half the iron content of oysters and the copper content approximates that of white bread. Shrimp also is an excellent source of iodine.

The report also includes information on the mineral content of fillets and crab meat and discusses the daily requirements of essential minerals.

The report may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 5 cents. If purchased in quantity lots of 100 or more, a discount of 25 percent is allowed.

